

Detailed Action

This office action is in response to Applicant's communication filed on 7/17/08.

Claims 1-11 are pending in this application.

Applicant's election of Group II, claims 4, 6 and 9, with traverse, in the reply filed on 7/17/08 is acknowledged. The Applicant has not provided a reason for the traversal. The requirement is still deemed proper and is therefore made FINAL.

Claims 1-3, 5, 7-8, 10-11 are withdrawn from consideration, being drawn to the non-elected subject matter.

Claim Rejections – 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bickham et al. (US 2004/0234435), further in view of Herron et al. (WO 02/16298).

Bickham et al. teaches the oxidation of an aromatic compound having an alkyl substituent (e.g. paraxylene) by oxidizing it to the corresponding aromatic carboxylic ester and or acid (page 2, section 15 - 17). The oxidation is a liquid phase reaction with oxygen (page 4, section 38) and an oxidation catalyst. Any suitable solvent can be

used (page 4, section 40). The Examiner interprets this to include primary alcohols as a solvent.

Bickham et al. is deficient in that it does not teach Applicant's particular catalyst and applicant's primary alcohol.

Herron et al. teaches the oxidation of xylene to both 4-methyl benzaldehyde and toluic acid, under air pressure, using a supported gold catalyst (page 13, lines 21-40, example 13 and table 1; page 7, lines 16-20). The gold catalyst is in the form of elemental gold (page 3, lines 17-18) and metal particles (page 3, line 33), on a solid support (page 3, lines 16-17), in which Group VIII metals can also be used (page 3, lines 18-20). This oxidation can form the corresponding mono-alcohol (page 2, lines 14-15; page 13, table 1). The Examiner interprets the formation of the alcohol to be both a product and behave as a co-solvent during the reaction, thus meeting Applicant's limitation for a primary alcohol.

Therefore, it would be prima facie obvious to one of ordinary skill in the art at the time of the invention, to use Herron et al.'s catalyst and alcohol, for Bickham et al.'s oxidation, with the reasonable expectation that the aromatic compound would be oxidized to the carboxylic ester, while the primary alcohol is formed in situ. The expected result would be the efficient formation of an aromatic carboxylic ester in good yield for the chemical industry.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Y. Cho whose telephone number is (571) 272 6246. The examiner can normally be reached on 9 AM - 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Sullivan can be reached on (571) 272 0779. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Jafar Parsa/
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